

What Is Claimed Is:

1. A reflector, comprising a plurality of light-reflective concave portions formed on a surface of a base material, each of the concave portions being a concave surface and being formed so that an inclination angle (an absolute value of an angle between a plane tangential to a point on the concave surface and the surface of the base material) is maximum on a side portion of the curved surface.

2. The reflector according to claim 1, wherein the concave surface of each of the concave portions has a single minimal point (a point where the inclination angle becomes zero).

3. The reflector according to claim 1, wherein the maximum inclination angle (an absolute value) is in a range of  $2^{\circ}$  to  $80^{\circ}$ .

4. The reflector according to claim 1, wherein the maximum inclination angle (an absolute value) is in a range of  $4^{\circ}$  to  $35^{\circ}$ .

5. The reflector according to claim 1, wherein the plurality of the concave portions are formed randomly with a depth thereof ranging from  $0.1\text{ }\mu\text{m}$  to  $3\text{ }\mu\text{m}$ .

6. The reflector according to claim 1, wherein each of the plurality of the concave portions are arranged irregularly adjacent to each other.

7. The reflector according to claim 1, wherein the plurality of the concave portions are formed so that the side portion having the maximum inclination angle of the concave surface is aligned in a particular direction.

8. A reflection type liquid crystal display device, wherein the reflector according to claim 1 is mounted therein.

9. The reflection type liquid crystal display device according to claim 8, wherein the reflector is formed so that the side portion having the maximum inclination angle of the concave surface of each of the plurality of the concave portions is aligned in a certain direction and is mounted so that the side portion having the maximum inclination angle of the concave surface of each of the plurality of the concave portions is aligned to be on a far side from a viewpoint of an observer.

10. A reflector, comprising: many concave portions formed on a reflector surface, an inner surface of each of the concave portions including a bottom curved surface and a peripheral curved surface, the peripheral curved surface

being a part of a first sphere having a first radius, the bottom curved surface being a second sphere having a second radius different from the first radius, and the bottom curved surface being located within the peripheral curved surface, wherein the first radius is smaller than the second radius, and a normal line extending from a center of the first sphere to the reflector surface and a normal line extending from a center of the second sphere to the reflector surface are not collinear.

11. The reflector according to claim 10, wherein the normal lines extending from the respective centers of the first sphere and the second sphere to the reflector surface are spaced apart from each other in a range of 0.1  $\mu\text{m}$  to 10  $\mu\text{m}$ .

12. The reflector according to claim 10, wherein an inclination angle of the peripheral curved surface is set in a range of  $10^\circ$  to  $35^\circ$  and  $-35^\circ$  to  $-10^\circ$ , and an inclination angle of the bottom curved surface is in a range of  $4^\circ$  to  $17^\circ$  and  $-17^\circ$  to  $-4^\circ$ .

13. The reflector according to claim 10, wherein the many concave portions are formed randomly with the depth thereof ranging from 0.1  $\mu\text{m}$  to 3  $\mu\text{m}$ .

14. The reflector according to claim 10, wherein the

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412  
conc 10

many concave portions are formed so that they are continuously connected to each other.

15. The reflector according to claim 10, wherein the many concave portions are formed along with many grooves on the reflector surface.

16. A reflection type liquid crystal display device, wherein the reflector according to claim 10 is mounted therein.

add (33)